

REPORT ON  
PESTILENTIAL DISEASE

1799

UNITED STATES OF AMERICA



FOUNDED 1836

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WASHINGTON, D.C.

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# REPORT

OF THE

Medical Committee.

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# REPORT

OF THE

## COMMITTEE,

APPOINTED BY THE

### Medical Society,

✓  
OF THE STATE OF NEW-YORK,

TO ENQUIRE INTO THE

SYMPTOMS, ORIGIN, CAUSE, AND PREVENTION

OF THE

### Pestilential Disease,

THAT PREVAILED IN NEW-YORK DURING THE  
SUMMER AND AUTUMN OF THE YEAR

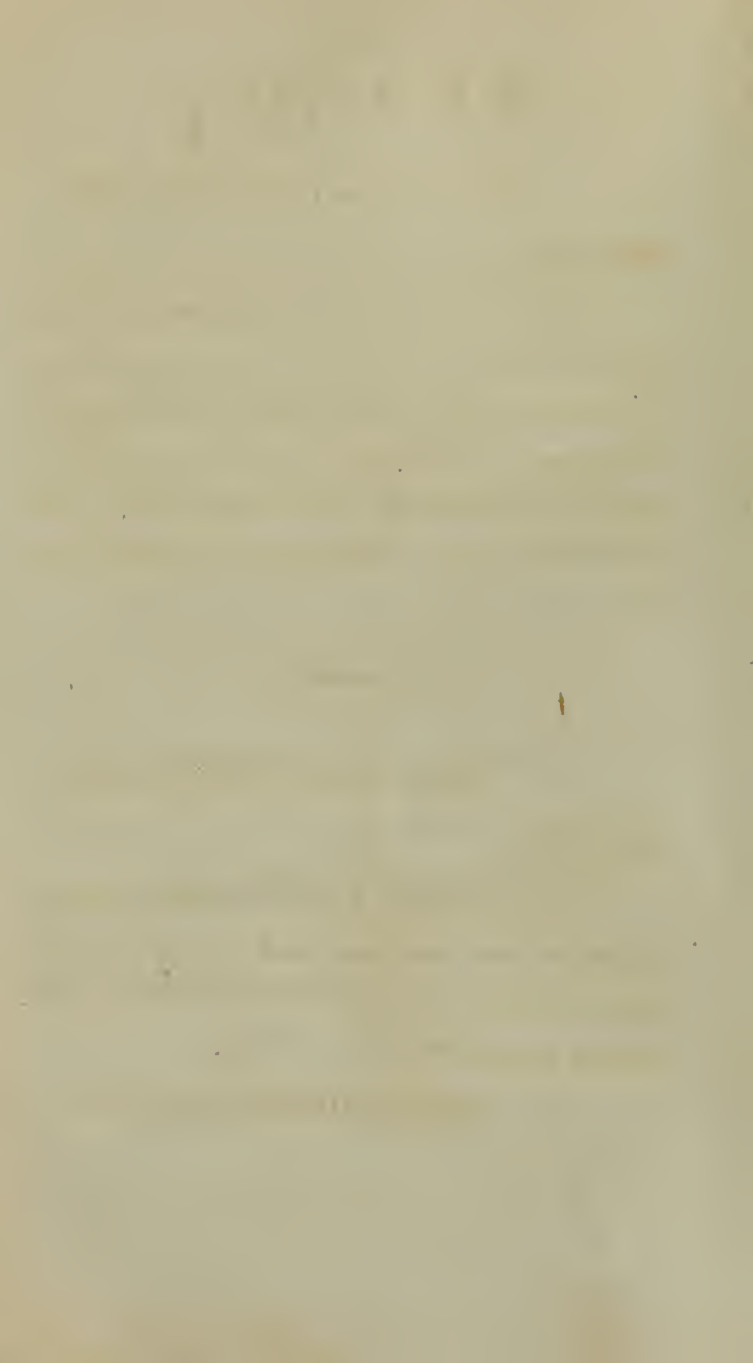
1798.

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FROM THE OFFICE OF THE DAILY ADVERTISER,

No. 71, Pine Street, NEW-YORK, 1799.





*Medical Society, 15th November, 1798.*

RESOLVED,

THAT a Committee of three Members be appointed by ballot to enquire into the *origin, causes,* and *prevention* of the late Epidemic, and report to the Society in writing, the result of such enquiry—  
And that Doctors TILLARY, RODGERS, and MITCHELL, be a committee for the above purpose.

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*Medical Society, December 31, 1798.*

RESOLVED,

That the Report of the Committee appointed to enquire into the *origin* [and *prevention* of the late Epidemic, be received, and that the same be printed at the expense of this Society.

JOHN ONDERDONK, *Secretary.*



## Advertisement.

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IT seems proper to apprise those who may take the trouble of reading the following report, that it originated in a communication from the Mayor of this city, addressed to the Medical Society of the state of New-York, about a month ago, expressing a wish from the Corporation, that an enquiry into the origin and prevention of the YELLOW FEVER, might be attempted by that body. A Committee for that purpose was accordingly appointed, but it was not within the design of the Medical Society, or contemplation of the Committee, to enter at large upon the nature of the Epidemic. To the Medical Society, this was not necessary, and to the public, for whose benefit it was ultimately intended, they conceived it could not be useful. It was indeed within the wish, but they fear beyond the ability of the Committee, to convey to their fellow citizens, some thoughts which might enable them to form a tolerably rational idea of the manner of its origin, and particularly of the nature of THAT AGENT, which, in their opinion, every where produces it.— In pointing out the sources of its existence in our city, the Committee are aware, that they differ in opinion on this topic with some respectable characters, and they are convinced, that a defect in the enumeration, as well as in the remedies proposed, will probably occur to some more observant citizens.

THE Committee cannot help anticipating this objection, by saying for themselves, that they conceived it would have been equally tedious and uninteresting, to enumerate all the minutiae of bad policy and worse practice, which are permitted to operate in our city in

*this respect. They proposed nothing further than an outline of the abuse of privileges, which decision, tempered by discretion, might easily and effectually fill up; they had neither time nor inclination for more; as it is now presented to the public, it was read before the Medical Society, who directed that it should be published at their expence.*

*WE shall offer nothing further in its vindication, but this—That how defective soever it may appear to the eye of discernment, we can confidently say, that we have allowed it to contain nothing but what we believe to be true, and that the motive for its publication will be found only in the hope of its being useful.*

*THIS the Committee trust, will shield them from severe criticism, and guard them from undue censure.*

JAMES TILLARY.

JOHN R. B. RODGERS.

SAMUEL L. MITCHELL.

New-York, Dec. }  
31, 1798. }

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## REPORT

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THE COMMITTEE, &c.

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**F**ROM the history of the City of New-York, as well as from professional observation in it, the Committee know that it has at different times, since its first settlement, been afflicted by mortal distempers; rarely, however, had they assumed such malignity as has been experienced since the year one thousand seven hundred and ninety-one.

It was in the summer of that year, that a disease in no feature essentially different from the *Epidemic* of the last season, carried off more than thirty persons within a small distance of *Burling's-Slip*, and that within the short period of 3 weeks. On that sad

occasion Gen. Malcom and several other valuable citizens, were among its first victims ; but as yet the Physicians of New-York had not ventured to call it by the formidable name of *YELLOW-FEVER* ; nor had public alarm arisen to such a pitch, as to occasion much speculation, either as to its nature, or origin.

UNHAPPILY, however, for our city, this slight appearance of Malignant Fever of 1791, has been followed by other and far more dreadful visitations, cutting off numbers of our citizens between the months of June and November. Since the year 1791, the Committee find, that the Corporation of this city have caused some salutary, though partial, regulations to be enacted, but the evil nevertheless has rapidly increased—insomuch, that in the year 1798 the distemper became so prevalent, as to cause two-thirds of the inhabitants to abandon their homes and seek safety and shelter in the surrounding country.—Of those who remained, Two Thousand died between the 1st day of August and the 1st day of November.

THIS disease, so terrible in its nature and so fatal in its effects, assumed a great variety of appearance. The Committee think it foreign to the objects of their appointment, or at least unnecessary, to mention the multiform and frightful shapes which, under different circumstances, it took on. It will probably be thought sufficient on this part of the subject to say (what much practice and many valuable communications from some of the most respectable medical characters in this city abundantly authorize), that it often attacked under the mild and unalarming guise of *SLIGHT CATARRH*, or *COMMON COLD*, but in its dreadful progress exhibited

along with the ordinary symptoms of increased, or irregular actions, BLEEDINGS from various parts of the body—ABSCESSES—BUBOES OR GLANDULAR SWELLINGS—BLACK VOMITINGS—CONVULSIONS, and MORTIFICATIONS.

THE Committee dismiss this painful part of their report, and proceed to make some observations on the

### ORIGIN OF THE DISTEMPER.

IN a great and populous city, where mortality has kept awful proportion with numbers, such a disease could not long fail to interest the feelings and awaken the exertions of the Magistracy, as well as the people, to a very serious enquiry, In a commercial city too, it was natural to suppose, because it has not been thought unreasonable to believe that it *might* be imported from some foreign place:—Accordingly stories were invented and circulated with great diligence, that the *seeds* of this dreadful distemper, imported in the first instance, from foreign shores, had been landed among us, and that when the present quantity was exhausted, all would be well again, *provided vessels from ports beyond the seas* were diligently searched, to prevent the *introduction of more*. Upon this popular notion of things, the Legislature enacted laws to prevent the introduction of infectious distempers into the State.

BUT though the Health-Officer, the Pilots, and the Wardens of the Port, scrupulously executed their respective duties and trusts, still the distemper increased behind them. As it could *never* (within the knowledge or belief of the Committee) be traced to a sick person actually landed, the favourers



of importation found little difficulty in ascribing it to bags of coffee, bales of cotton, chests of clothes, or something of this sort.

THE Committee having been constantly on the spot, and sharing by common interest, as well as by professional duty, in the general solicitude on this subject, have been at a considerable degree of pains, to ascertain whether there was a foundation in fact, that this disease had been in *any instance*, so imported into our city. Unbiased by any private interest, or professional theories, and pledged by the best securities which they can offer, that of their integrity and their honour, for a *faithful report*, as far as their judgment and information extend, they have no hesitation in declaring their belief, that these stories were founded in misrepresentation, and fostered by prejudice. The Committee, however, knowing that *bold assertions* had been made, respecting the ill condition of the ship Olive, and her cargo, of the sloop Iris, and one of her crew, John Willson, and of the schooner Fox, (all these vessels being from the West-Indies) were extremely anxious to inform themselves on this point. The result of their enquiries has been, that the allegations which have, in these instances, been hazarded, spring, either from sources of undiscerning credulity—from motives of self-interest—or, from principles of moral turpitude: And they are happy to add, that the *proof* of this matter does not rest on idle hearsay—popular clamour—or, weak fabrication: They have brought forward the most solemn evidences which were within their ability to procure, or their power to substantiate, contained in the several Affidavits No. 1, 2, 3, 4, 5. The Committee cannot quit this part of the subject, without offering one or two additional observations. We



would remark then, that the corruption of the perishable materials of cargoes, the intemperance and filthiness of the crews, are the chief of those prolific causes of *Malignant Fevers* which are *generated on board vessels*; and that the locality of the distemper is as clearly to be traced in them, as in a dirty house, crowded jail, or other filthy place; and the causes, and the consequences too, run parallel, in almost every particular. Seafaring men *do not* get their sickness in the West-Indies, by communication with the sick on shore; or, in other words, from *contagion received from deceased persons*; but almost always from intemperance in eating and drinking, exposure to, and sleeping in the night air, (that is, dews impregnated with pestilential matter) in coves and marshy grounds, while engaged in getting wood, water, produce, &c.

THE matter of fact appears to us, to be simply this—

THE atmosphere of those unhealthy places in the West-Indies, (to the effects of which seamen who voyage to these Islands must be often exposed) acts upon them just in the same manner, though perhaps, in general more powerfully, that the air of the city of New-York, in certain seasons and in particular situations, operates upon fresh healthy persons coming from the country. A vapour risen from the earth, surrounds them, and this vapour or poison which exhales from common *putrescent matter*, (aided, doubtless, in many instances, by some peculiar properties of the air, and predisposition of habit,) is frequently of a nature so subtle and deleterious, as to penetrate to the very brain and vitals, and cause sudden death. But a *specifically contagious matter as such*, immediately de-

rived from the bodies of the sick, and capable of communicating invariably the *same disease*, as in the *small pox*s, we believe, has nothing to do in this case. When, indeed, heat and moisture are permitted to act jointly upon the matter of perspiration which is continually exhaling from the surface of a diseased body, and is allowed to adhere to clothing, and be pent up with other excretions in the factitious confined atmosphere of such persons, without the grand correctives of washing, and ventilation being made use of, *pestilence may certainly be produced*;—and in this manner we know it is frequently produced among the poorer manufacturers in different parts of Europe, and may *be so produced in any country* among dirty housekeepers—badly regulated poor-houses—confined jails, and filthy ships, &c. This is the most intelligible idea which we can convey, whereby to illustrate the fallacy of those notions which ascribe pestilential diseases to a *specific contagion*, and if the Committee did not deem it useless to dwell longer on this branch of the enquiry, they could adduce many weighty facts and high authorities, to establish the opinions, and confirm the distinctions here contended for.

BUT notwithstanding all that has been said, the belief of a *specific contagion*, in its nature capable of *importation* and *exportation*, continues to form a part of the Medical Creed of some respectable Physicians, and what the Committee considers of infinitely greater consequence, continues to operate the most serious mischief in many parts of the world, as well as in our own country.

THE Committee take occasion, at this place frankly to acknowledge that they do not understand what is *meant* by a *specific contagion*, when

the term is applied to express an agent capable of producing yellow fever ; but they are at no loss to comprehend how disease of the worst sort can be engendered, by *heat and moisture acting upon dead animal and vegetable matter* ; and they have the most luminous testimony, that *pestilential matter* thus produced, is often of a nature sufficiently powerful to derange all the animal functions, and destroy all the vital energies. There is no truth which our minds are capable of embracing, more certain to us than this—That *Yellow Fever* may be produced in *any* country by *pestilential effluvia*, without receiving an atom from a person sick of a similar disease : And that from the most accurate researches which they have been able to make, they think themselves warranted in saying that the disease called *Yellow Fever* may be produced *on shore and in this city*, as readily as in the *West Indies* or *on ship-board* ; and that this destroying though secret agent is none other than *pestilential vapours*. They think moreover that it is in place here to declare, as the result of their own experience, that the *Yellow Fever* is not a contagious or *catching disease*, in the popular and common acceptance of the phrase ; that it is not communicable from person to person in a *pure atmosphere*, but spreads only in an air loaded and contaminated by putrid exhalations.

If this be the fact (and that it is so there remains on our minds no doubt) the advocates for *importation* will agree with the favourers of *local origin* in the adoption of adequate regulations on shore, let them differ ever so widely upon the speculative question.

IN all events, it happily turns out that the means necessary in the opinion of one party to hinder the *spread of Yellow fever imported*, exactly coincides with those recommended by their opponents *for the prevention of its domestic manufacture*.

THAT this distemper is *home-bred* or of *local origin*, we possess such a flood of evidence as, in the judgment of the Committee, puts the matter beyond the limits of conjecture.

FROM investigations lately made by the Committee, as well as by other physicians, it appears that this season there have been several *local centres of pestilence* in New-York, the most remarkable and offensive of which, as far as they have been able to trace, were those of Lynch and Stoughton's wharf, Pine Street docks, Burling Slip sewer, [*Appendix No. 6 and 7*] James and Catherine Street slips, and the [*Appendix No. 7*] nuisance yard, near East Rutgers Street. These situations, and perhaps some others, were evidently rendered sickly by noxious exhalations, produced in *each of them* independently of *foreign* intercourse, or of any *communication* with each other. In like manner each store or cellar containing spoiled beef, pork fish, or other substance, evolving *putrescent matter*, was a smaller centre of pestilence; and doubtless there were besides these, other receptacles of filth which furnished copious materials for swelling the volume of pestilential air.

BUT quitting these partial though productive corners where pestilence *occasionally inhabits*, let us turn our thoughts and our eyes for a moment, to those great and *permanent sources* where it *delights to dwell!*

THE most prominent, extensive, and as we conceive the most operative, in this disgusting group, is the *greater part of the new made grounds on the margin of the East River*. It is neither our business or our inclination to enquire into the municipal policy, whence originated the business of *lot-making and dock-making*, but we cannot refrain from saying, that in our opinion, it is of all others, the most fruitful nursery of pestilential diseases. If we except a considerable part of Pearl-street, which was made in early times, out of the high grounds, dug down to level the street, we believe we shall be fully warranted in saying, that a vast proportion of Water and Front-streets, have been made out of the most exceptionable materials: Many, very many of the lots, bulk heads and wharves have been filled up by *contract or job*; and that too at those dull seasons and vacant hours, when the labourer could employ himself no other way. A dreadful proportion therefore, of bones, oyster-shells, wood-shavings, street-scrappings, offals, and in short every thing else, save good earth, gravel or sand, have been abundantly employed for this purpose.

HENCE it is, that in numerous instances, instead of making *good grounds* and building *tenantable cellars*, they have fenced off the water and constructed *quagmires*. Nearly allied to this first source of disease, presents itself in order, and as we conceive in strength, certain *sewers, slips and docks*; these, by becoming receptacles of *dead animal and vegetable matter*, when exposed to the agency of heat, never fail to produce noxious effluvia. From the decomposition which takes place among these vile materials, a pestiferous air is extricated which contaminates the atmosphere, and by that means becomes one of the most influential causes in the *spread* of



pestilential diseases. The records of many ages, and the authority of many physicians and philosophers, furnish abundant testimony to the matter of fact on this subject. [*See Appendix No. 6 and 7.*]

SINKS and privies follow in the black catalogue. On this head, the records of the Health-Office of 1798, contain representations to the Police, that the fluid part of the excrement in sinks, had broken thro' their mounds into the neighbouring cellars and kitchens, and into adjoining pumps and cisterns, emitting into the surrounding air, the most noisome exhalations.

IT is a fact within our own knowledge, that some of the yards along the east river, and on the water lots too, filled in originally with rotten materials, sink after sink has been so frequently dug, that it is a business of some difficulty to find a fresh spot of ground in the yard, large enough for a new one; wherever the digger introduces his spade, he plunges into an old jakes.—Consider fellow-citizens, (for it is of great importance both to your comfort and your health)—Consider the enormous growth of this evil.—Suppose all the dwelling-houses of this city were demolished, and the temples of Cloacina alone left standing, what a spectacle would it exhibit? Reflect at the same time, that the evil is not in any degree diminished because the *little houses are hidden*, for secrecy and concealment do not lessen the mischief at all.

*SUCH a quantity of land, exposing such a surface to an August and September sun, is enough, one would think of itself, to poison our best enjoyments, if not to destroy our lives.*

*BEEF and Pork* corrupting in barrels—*stinking Hides*, and *putrid Fish*, are each of them, very capable of becoming a center of noxious exhalations, and we have at this moment before us, very satisfactory proof, that during the late Epidemic, they proved fatal to the lives of many valuable citizens—to say nothing of their agency in enlarging the extent of an unwholesome atmosphere.

THE irregular and slovenly mode of cleaning back-yards, ceilars, &c. and the injudiciously heaping together, the various substances thus collected, with the filth of the streets, and exposing them in thickly inhabited parts of the city, to wait the tardy removal of a Scavenger, has occasioned universal complaining, disgust, and in some instances, much sickness. The Committee mention with regret, but without any design of imputing blame to the Health-Commissioners, that the *nuisance yard* which they established near the ship yards, for the purpose of collecting all the putrid refuse of domestic manufacture, became a neighbourhood as remarkable for its mortality during the sickness as any part of the city; and, what is well worthy of particular notice, that this happened in a place recently settled, where the ground is clean, and the population not crowded.

THE daily accumulation of dead bodies in burial grounds within the city, we are fully persuaded, is another source of noxious vapours. We know too, that this is touching upon a subject where the affections and the prejudices of mankind, are extremely interested. The committee, however, think from the maturest consideration of duty and conviction, and supported by the history of other countries, which have severely suffered by the folly

of allowing sepulture within the city, that this practice ought to be ranked as no trifling agent in the production of disease.—[*Appendix, No. 9.*]

AMONG other very pernicious modes of cultivating water lots, they rank that of building *store-houses, and platforms in front of stores and dwelling-houses, supported upon piles*, not the least injurious to health.

EQUALLY pernicious with this practice is that of *digging cellars on new grounds during the warm season*, which the Committee consider as plunging into *hot beds of putrescence*, that cannot fail to contaminate the surrounding air, and be of itself a source of *local origin* for the production of pestilential Fever.

THE municipal laws, which at present exist for the regulation of our public markets are, in the opinion of the Committee, extremely defective.—And the contiguity of the *Ferry* to the largest and most frequented market in our city, is in their estimation liable to weighty objections.

*The Committee now approach that part of their PROSPECTUS which they deem ALL-IMPORTANT, (viz.)*

## THE PREVENTION OF THE DISEASE.

HERE we cannot resist exclaiming in the animated language of a devout poet—"O, that the warning voice of him who saw the Apocalyphs," might open our eyes and convince our understandings, that we might duly attend to those things which so



deeply concern our present peace and future happiness.

THE means of *prevention* are of *two sorts*, as they relate to *foreign intercourse*, and *domestic management*.

CONCERNING the means to be employed for preventing danger from *foreign intercourse*, the Committee recommend—First, that all ships and vessels containing sick persons on board—vessels in a foul condition whether containing sick persons or not—and vessels containing damaged cargoes of such substances as generate pestilential air, should be brought to, at some convenient place below the city, and all sick and dirty persons and damaged articles taken out; and that none of these should be brought to town, until pronounced by the inspecting physician clean and safe.

THE Committee find that since the establishment of quarantine laws, no adequate provision has been made for carrying them into perfect effect—That no stores have been erected for the safe-keeping of such articles as may arrive in a damaged condition; and that the hospital for the reception of the sick has been fluctuating from one place to another—from Governor's to Bedlow's Island, and from thence to Bellevue. The Committee are of opinion in order to guard the public health, and at the same time to preserve the property of individuals, for it is as necessary to protect our citizens from the effects of *decaying merchandize* as from *diseased persons*—that Bedlow's Island should be purchased, or if military establishments forbid this, a portion of the eastern shore of Staten Island may be procured, on which a Lazaretto, as well as suitable stores should be built, and every other conveni-

ney prepared for conducting with precision and effect the whole duties of the Health Office.

SUCH an establishment as the above, we believe would entirely supercede the necessity (which our neighbours it seems contemplate) of applying to the General Government for a law which would operate as an interdiction of commerce during a considerable part of the year ; an interdiction, in the judgment of the Committee, which, to say nothing of its ruinous consequences to trade, would be useless to the end intended, and in the opinion of the Committee altogether unnecessary.

*The means of prevention, which are of domestic sort, we now proceed to examine, and this we shall attempt as concisely as possible, in the order in which we considered them, as* SOURCES OF LOCAL ORIGIN OF DISEASE.

THE object that first presents itself in this review is the *extention of the city* by the formation of *new streets* on both rivers, and the practice of *docking-out*.

To prevent the increase of this evil, for it will take a long time to remedy it, no new street should be laid out on the East or North river, and the business of farther dock-making, should be discontinued, as soon as possible ; all lots on the East and North rivers should be raised without loss of time, to a level, something higher than that of the adjoining streets, in order to prevent the accumulation of filth, and that the water may be *entirely drained off*. If through a mistaken or avaricious policy, the correction of this evil is not immediately set about, its permission will keep alive an inex-

haustible agent in the frequent and violent returns of pestilential diseases, and perhaps in a few years render the whole property of the city of very little value. What folly—what madness is it thus to encroach upon the water! As if there was not land enough made by nature's hand, of *pure materials*, for streets, stores, houses, and every other convenience which a great and growing city requires.

[See Appendix No. 8.]

## PUBLIC SEWERS.

THESE should be so constructed as to carry off their contents, by a more considerable declivity than they do at present ;—not into *Slips at low water*, which, of themselves, expose a large surface of *mud*, intermingled with many vile substances, to the action of a vertical sun, but in such a manner, as to discharge all their feculencies, by a greater projection of their mouths, into the river.

## DOCKS AND SLIPS.

THESE should be immediately filled up with clean earth and gravel, or sand, as has been repeatedly and forcibly recommended by the Health-Commissioners, for this most cogent reason, that the *muddy bottoms may not be left bare at low water*. If this measure should be delayed longer than        days after the order of the Magistracy has been issued for that purpose, then the work should be completed by public authority, and the property of the individual, made responsible for the cost.

## SINKS AND PRIVIES.

IN order to remedy, in some degree, the inconveniencies, and to prevent, as much as possible, the *fatal effects* of Sinks and Privies, the Committee recommend, that the whole of their contents be taken out of the city in bulk, or by the wash of streams running thro' water closets, and *well regulated sewers*—Or it may be carried out according to the good old custom of this city—in *tubs*, and thrown into the river!!!—Or it may annually, when in a *frozen state*, be carried away in the winter months, (using *lime* frequently at other seasons of the year) and disposed of in same manner. If some of these modes are not adopted, the consequences will be, whether credited or not, that the citizens, from using water for culenary purposes impregnated with human excrement, will continue to *eat*, and *drink*, and *respire* a part of their *OWN EXCRETIONS*.

## BEEF—PORK—FISH, AND HIDES.

THE Committee are of opinion, that it could not be very injurious to the interests or the convenience of merchants, and they are very certain, that it would be preservative of general health, that no person should be permitted to store Beef, Pork, or Fish, from the                      day of                      to                      in the thickly inhabited parts of the city, and that all articles of those kinds (and the interdiction, in their opinion, should extend to Hides), should be kept into public store-houses, to be provided in convenient and safe places for their reception.—*Appendix 9.*

## BURYING GROUNDS.

THOSE caverns of putrefying mortality, should no longer be permitted to remain within the city, but removed, as soon as possible, to a suitable distance from it. In the opinion of the Committee, this relict of long indulged superstition, within the limits of the city, should be disused, and absolutely forbidden by law, and severe penalty incurred for every violation of it.

## CELLARS—KITCHENS, AND YARDS.

FROM long observance, the Committee think, that more adequate municipal regulations ought to be enacted, and *rigidly enforced*, to compel House-keepers to remove every species of filthy domestic manufacture, from their cellars, kitchens, and yards, every day from the 1st of June to the 1st of November, and during the rest of the year, at least twice weekly—That a suitable number of Scavengers be appointed to remove these matters, and that this duty should be performed with particular punctuality. It will be an object of some consequence for the Magistracy, as well as of great advantage to the citizens, to have the superficial nuisances which are constantly collecting in houses and streets, *so disposed of* as neither to interrupt the comfort, or endanger the health of any part of the citizens. Many of the Yards of this city, are lower than the front part of the lot on which the house is built—it is certainly a measure that promises great security to the health of the occupants, that all such

yards be raised a little above the level of the street, in order to carry off the stagnant water, &c.

THE erection of *store houses and platforms, upon piles of wood*, they consider as miserable contrivances, and fitted for no better purposes than that of being reservoirs of filth and nests of pestilence. In like manner, the *digging cellars out of new grounds during the hot months*, and the abominable practice of opening oysters upon these grounds, (or indeed any other) should hereafter be totally prohibited during the same period.

THE Committee conceive that it would be a matter very conducive to health and comfort, if our *markets* were under better and stricter regulations. They submit too, very respectfully to the Corporation, whether it would not be a salutary measure to remove the *ferry* from the largest and the most frequented *market in our city*, to some other place, and that, for reasons which we conceive too obvious to need enumeration.

THE last thing which we have to propose, though among the very first in its importance, is to procure for our city, that great desideratum, a plentiful supply of *Pure and Wholesome Water*.

THIS infinitely valuable article, so precious to the comfort, health, and very existence of the people, should be procured without any unnecessary delay, and from an unfailing source, liable to no interruptions, and removed from all the impurities of the city. This agreeable agent, equally salutary and powerful, by its rapid currents, might be employed at any season, to remove from our houses, streets,



wharves, docks, and slips, all those offensive materials, which from within and from without, are constantly collecting, and hourly acquiring properties every way destructive of comfort, and promotive of disease. From the opinions, and enquiries of some intelligent and respectable citizens, who have been employing themselves on this interesting subject, we believe that a stream from the River Bronx, might without much difficulty be conducted into our city. But from what source soever it may be thought best to derive good water, no hindrance whatever should be thrown in the way to its attainment. No regard should be paid to individual, but to the general interests, on this vast concern; nor should the Corporation or citizens listen to, or adopt any plan for its accomplishment, other than that which shall be founded upon mature deliberation, uninfluenced by any principles of a narrow policy or an ill-judged oeconomy.

PERHAPS it may be necessary, in order to carry the domestic regulations, which are here recommended, into full effect, or as many of them as may be thought of use, in averting the return of the late calamity, to enlarge, by legislative interference, the power of the Corporation.

WE acknowledge ourselves unacquainted both with the extent of their authority to correct, and the number of their difficulties to subdue—we believe the first to be considerable, and the last formidable—If however there be any thing in the foregoing pages deserving of notice and worthy of being acted upon, it is certainly high time it were attempted. The Magistracy should endeavour, we

humbly apprehend, by some decisive exertion, to remove from their Corporate capacity the blame which many citizens think attaches to it, from the belief, that they have a *sufficiency of power*, but from particular circumstances much disinclination, to begin and carry through the essential objects of necessary reform. We suggest, with great deference, as our opinion, that it would facilitate the business designed, if the objects of reform were so divided, as that the completion of them might be put under the direction and superintendence of Boards of Commissioners, specially appointed, possessing full authority, and receiving adequate compensation. This is done to good purpose in other great cities, and why not here? In the city of London the Commissioners of the *common sewers*, hold a place of trust, and exercise an authority, which in point of *importance to the health and safety of the people*, yields to none within the whole kingdom.

THE Committee have thus endeavoured to lay before their fellow citizens, in as concise and intelligible a manner as they were able, a plain view of the *nature*, the *sources* and the *prevention* of Yellow Fever. In doing this, they have not allowed themselves in any instance, knowingly, to wander under the guidance of popular prejudice or party spirit, into the devious fields of theoretical speculation. Conscientiously impressed, as they have been, with the immense consequences of this *serious subject*, to the future health and prosperity of our city, they have permitted no opinion to go forth, nor proposed any manner of domestic reform, which have not sprung from their best apprehensions of *truth*,



and go recommended by the strongest convictions of necessity and usefulness.

UPON the whole, the Committee cannot help indulging the hope, that by this feeble attempt, they may at least be so fortunate as to set their fellow-citizens on THINKING, and by that means, lay a good foundation for WORKING. They conclude this report therefore, by entreating the magistracy and the people to BE UP and a STIRRING, for they may be assured that THE EVIL THING IS NOT DEAD—BUT SLEEPETH.



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## APPENDIX.

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*THE* reader will find in this Appendix, besides the Affidavits, &c. referred to in the body of the Report, a paper drawn up exclusively by Dr. Samuel Mitchell, Professor of Chymistry in Columbia College, and one of the Members of the Committee who framed the Report. It contains the result of certain experiments on which Doctrines arise, either not universally admitted, or not generally understood. The Committee are of opinion, that if these experiments be just, and the Doctrine arising out of them be tenable and true, they cannot be too generally known—if false, they cannot be too early refuted. They therefore recommend it, without further preface or comment, to the perusal of the Chymist and the curious.

## AFFIDAVIT OF MALLEBAY AND DURAND, CONCERNING THE SHIP OLIVE.

*City of* }  
*New-York* } fs.

JOHN MALLEBAY and JAMES B. DURAND, of the city of New-York, merchants, being duly sworn, do severally depose and say—That on the twenty-third day of June last, the ship Olive, Isaac Johnson master, arrived at the port of New-York, from Jeremie, with a large cargo of coffee, and some cocoa—That her crew consisted of ten persons, exclusive of the captain, and that she had seven passengers on board—That the crew and passengers were all in good health, except a Mr. Laborde, a passenger, who was ill with a consumption, and was brought on shore by order of the Health Officer—That the cargo was landed at the Old Slip, between the twenty-sixth day of June and the second day of July last—That the whole of the cargo was in good order, except about twenty hogheads of coffee, which being a little damaged, were shifted, on board the ship, into new hogheads, and the damaged part was thrown overboard. That on the third day of July last, the ship, being discharged, was removed to a dock near the New Slip, where she remained till the twenty-eighth day of July, then instant, on which day she was sold to Mr. Baingold, of Virginia, and further these deponents say not.

JOHN MALLEBAY,  
 JAMES B. DURAND.

Sworn, this 7th day of December 1798, before me,  
 THEOPHILUS BEEKMAN, Alderman.

[No. 2.]

*Pretended importation into New-York in the ship Olive.*

## AFFIDAVIT OF DAVID CATION.

City of }  
 New-York, } ff.

DAVID CATION, one of the inspectors of the customs for the port of New-York, being duly sworn, saith—That he had charge (as Inspector as aforesaid) of the ship Olive, from the time of her arrival in this port until the discharge of her cargo, to wit, from about the twentieth of the month of June, to the sixth or seventh of the month of July last. That he was repeatedly in the hold of the said ship, and turned up great part of the cargo, which consisted of sugar and coffee; and observed nothing materially offensive in the said ship. That there were some hogheads of coffee on board which were damaged in part; which hogheads were stowed on deck at the Old Slip, in said city, and the damaged part thrown overboard. That the crew and passengers of the said vessel were all healthy, as far as this deponent knows, except one man who had a consumptive complaint. That the said vessel was commanded by Isaac Johnson, and has been informed that she was sold, after the delivery of her cargo, but does not know to whom.

DAVID CATION.

*Sworn before me, this 1st day of December, 1798.*JACOB DE LA MONTAGNIE, *Alderman.*

[No. 3.]

## AFFIDAVIT OF THE MATE OF THE SLOOP IRIS.

*City of* }  
*New-York* } fs.

LEVERETT STEVENS, late mate of the sloop Iris, of New-Haven, being duly sworn, deposeth and saith—That he knew John Wilson, the sailor belonging to the said sloop—That he, this deponent, was on shore with him at the time of his death, and assisted in sewing up in a blanket, the body of the said John Wilson, together with all the wearing apparel which he had on shore, and that no part whatever, of the same, was returned on board of the sloop. And this deponent further saith, that the regimental coat, found in the chest of the deceased, on board, was a new garment, taken out of a bale a few days before, in the presence of this deponent, and to the best of his knowledge and belief, had never been worn. And this deponent further saith, that the jackets and trowsers found in the said chest were also new, and taken a few days before, in the sight of this deponent, from another bale of goods; and as this deponent verily believes, had never been worn by the said John Wilson, in his life-time, nor by any other person. And this deponent further saith, that being at the counting house of Elijah Austin, before the opening of John Wilson's chest of things in the store, and before the said Elijah's departure for the city of New-York, whither he said he was going, this deponent heard him complain of being unwell, but

that notwithstanding, he must proceed on his journey. And further this deponent saith not.

## LEVERETT STEVENS.

*Sworn before me, this 16th November, 1798,*  
**GABRIEL FURMAN, Alderman.**

[No. 4.]

*Pretended importation of the distemper into New-Haven.*

AFFIDAVIT OF CAPT. TRUEMAN, OF THE SLOOP IRIS.

*City of* }  
*New-York,* } ff.

DANIEL TRUEMAN, late commander of the sloop Iris, which sailed from New-Haven in the winter of the year 1794, on a voyage to Martinique, being duly sworn, deposeth and saith—After his arrival at the port of Saint Pierres, his vessel was taken from him by the authority there—That while the vessel was detained, he, this deponent, and part of his people, lived on shore—That after the condemnation and sale of his vessel, he, this deponent became the purchaser. And this Deponent further saith, that the remainder of his crew, consisting of his mate and two men, were employed, during part of the time aforesaid, in the business of droguing, in the employ of the government there—That on the return of the mate and the two men aforesaid, he this deponent, took possession of the said sloop Iris, and carried his whole crew on board, and that afterwards, within



three days, one of the men, named John Wilson, was taken sick of a fever, and within a few hours was carried on shore, where he died, and was buried in the clothes which he wore during his sickness, no article whereof was returned on board the Iris. And this deponent further saith, that on setting sail, his crew, including passengers, to the best of this deponent's recollection, consisted of fifteen persons—That the chest of the deceased John Wilson was opened by this deponent and his mate, Leverett Stevens, twice during the passage, and that it contained a soldier's regimental coat, a great coat, several jackets and trowsers and a few other things, none of which the said John Wilson wore during his illness. And this deponent further saith, that during the passage from Saint Pierre's to New-York, and from New-York to New-Haven, the whole of the persons on board enjoyed good health, and no fever or other distemper prevailed among them: And this deponent further saith, that after his arrival with a healthy crew at New-Haven, Elijah Austin, the person in whose employ the deponent sailed, was present when this deponent opened the chest containing the effects of the said John Wilson, in a certain store where they had been carried from the vessel several days before; and that the said Elijah Austin, before the opening of the said chest, and before his departure for the city of New-York, to which he was then about to go, complained of a head ache, and said he must proceed nevertheless to New-York. And further this deponent saith not.

DANIEL TRUEMAN.

*The foregoing deposition was sworn to before me, this 16th of November, 1798.*

GABRIEL FURMAN, *Alderman.*



[No. 5.]

*Pretended importation in the schooner Fox, into New-York.*

AFFIDAVIT OF VINCENT G. COUET, A PASSENGER.

*City of* }  
*New-York* } fs.

VINCENT GUY COUET, at present of the city of New-York, gentleman, being duly sworn, deposeth and saith—That he arrived in the port of New-York, in the schooner Fox, from Jeremie, on the fifteenth of July last—That there were four passengers on board the said schooner, who, together with the crew of the said vessel, were, during their passage and at the time of their arrival here, in good health—That he left Jeremie on the 24th of June last, at which time it was generally very healthy at that island—That he has not heard of any contagious disorder existing there at the time he left it—That the vessel in which the deponent came to this city, was commanded by a Mr. Dandelot.

COUET.

Sworn before me, this 4th day of December, 1798,

THEOPHILUS BEEKMAN, *Alderman.*

[No. 6.]

*Concerning the effects of the Exhalations from Burling's-slip sewer.*

ON the 23d and 24th of August, being two very cool mornings, preceeding the extreme heat of some days before, almost the whole neighbourhood of the top of Golden Hill, and in Cliff-street, were seized with slight affections of the heart, and with symptoms of contagion. Two days before this, while sitting with a neighbour at the corner of Cliff-street and John-street, directly facing Burling-slip, they experienced an uncommonly offensive odour, coming from Burling-slip and brought by the southerly wind; this smell had been perceived for some days before (but not so extremely disagreeable) whenever the wind was southerly, and was conveyed as in a funnel up the hill to John-street—the corner house of these streets, seemed to divide the funnel, and at this house, the first persons took sick, and they were very severely attacked. There were many cellars in this neighbourhood filled with beef, which at this time was in a putrid state. Mr. Renny, (the taylor) who lives below Dr. Faugeres, near the corner of Pearl-street and John-street, also related to Dr. F. that his cellar was filled with beef, which had emitted a very disagreeable smell for some time before this, and that the smell was very offensive to all his family. Renny's wife and himself took sick the latter end of August, she died—he recovered!—Dr. Faugere says, that when the scuttles of the common sewer were opened, in order to have quick lime thrown in, two young men of the

neighbourhood, from motives of curiosity, looked into the drain, and that these young men both took the disorder and died.

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[No. 7.]

*Poisonous exhalations from the sewer of Burling's-slip.*

ON the 14th day of August, there fell, during a shower in the morning, an unusual quantity of rain. The fall was so sudden and copious, that many low lots of ground and cellars were partly filled by it. Hot weather continued and encreased, after this excessive precipitation of water; and the concurrence of these two causes, doubtless, largely contributed to put the putrescible substances in the city into rapid fermentative action. In parts of the city, where the *kind* and *quantity* of such matters favoured the production of pestilential vapours the neighbourhood soon grew sickly; but in no place, was its local generation and diffusion more evident than around the upper opening of Burling-slip sewer, in Pearl-street. It may be remarked, in general, of our sewers, that they have not descent enough to enable fluids to run briskly through them. They are of course very liable to obstruction; and the complaint very generally made by the citizens on this head, do not apply to *Sewers, as such*, but they evince in strong terms, that some sewers, which underdrain the streets, *are*

*shockingly projected and executed.* The following narrative will shew this :

THE wash of several streets, is intended to be emptied into the East-River through the sewer.—The impetuous fall of rain on the fourteenth, cleansed the streets of almost every nasty thing, so that the pavement appeared uncommonly nice and bare ; and if it had been *low* water, all this amount of foul and putrid matter, from the streets, would have passed freely through the sewer into the river, and the city been benefited by its removal. But it happened at that time to be *high* water, which made such resistance at the lower end of the sewer, that the wash of the streets could not force a passage fast enough, but stopped and stagnated until the recess of the tide. A quantity of the putrescent materials deposited by the wash, settled along the bottom of the sewer, and as soon as the day of August, emitted exhalations from the mouth of the sewer, highly offensive to the neighbouring inhabitants and to persons walking along the streets. At the time the substances below were emitting these vapours, the wind blew from the S. or S. E. and on the      some of the inhabitants living to leeward of the mouth of the sewer, were taken sick. The *poisonous* air extricated, probably did not continue to flow for a long time ; but as it passed along the *leeward* sides of Pearl, John, and Cliff-street, it scattered sickness and death among the people. Its malignity was dreadful, and it spread to leeward until it spent its force among the houses, or became diffused and attenuated in the atmosphere. To stay the progress of the mischief, a parcel of quick lime was thrown into the sewer.—The watery vapours proceeding from it, as it passed was driven by the wind in the same direction, as

the pestilential streams had travelled, and rendered their march and dissemination, in a manner, cognizable by the eye. A pestilential exhalation, rising from the slip where the lower end of the sewer terminated, exerted its poisonous influence upon part of a sloop's crew, which laid there; and a portion of the vapours from this lower source, wafted to leeward by the E. S. E. wind, appears to have destroyed a number of lives in Water-street, near the place of its production. The Committee believe, not a single citizen ever doubted the local origin of the poison in this place.

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[No. 9.]

*Danger of Burying Grounds in Cities.*

ON the subject of Burying-grounds, and the danger arising from the accumulation of dead bodies in Churches and Church-yards, an instructive little work, in two Essays, was written in Italian, by Mr. PIATTOLI, and published more than thirty years ago, by order of the Duke of Modena. In the first part, the Author recites the customs of different people of antiquity concerning funerals—the times when interment begun in inhabited places, and Churches—the progress of this abuse, and the different laws both civil and ecclesiastical, which have been enacted and re-enacted on this subject: In the second, he has recourse to experience and actual facts, to demonstrate the danger of interment in Churches and Towns. Air charg-

ed with animal exhalations, is already known by its pernicious effects :—If such air proceeds from a corrupting corpse, it becomes the more dangerous by being confined in close places, where it has little communication with the free atmosphere. The unhappy events, occasioned by these terrible exhalations, evince the necessity of establishing an unrefrained current of air in burial-places. Grave-yards ought therefore to be removed from the abodes of the living, and should be carried quite out into the country :—And such is the conclusion which the author draws from the assemblage of all his proofs and all his arguments.

WHAT can illustrate it more strongly than the following fact ? At Saulieu, in Burgundy, there prevailed a catarrhal epidemic fever of a mild type ; and there had been buried in the parish church of St. Saturninus, the carcase of a gross and corpulent man. Three and twenty days afterwards, a hole was made along side of that wherein he had been buried, to inter a woman who had died in child bed of the prevailing distemper. From the moment the ground was opened, a very fetid exhalation filled the church, and was perceptible by all who entered it. In letting down the carcase of the woman the coffin was shaken by the slipping of the rope, and a quantity of corrupted matter ran out and affected the assistants. Out of one hundred and seventy persons who entered the church, after the grave was dug to the time of its being closed, one hundred and forty-nine were attacked with a putrid malignant fever, which had some characters of the prevailing catarrh ; though the nature and violence of the symptoms left no room to doubt that its peculiar malignity was derived from the infection of the church.



It is well worthy of remark that the wisest princes and prelates have uniformly opposed interment in cities and churches; but superstition has always risen up in opposition to their laws, and but too frequently prevented their execution. On this point the people have shewn themselves peculiarly prone to transgress, and therefore it becomes a legislature to provide against the repetition of similar offences by energetic and decisive measures.

*Vicq. D'Azyr's Essai sur les De la Sepulture, &c.*

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*Theory of the Muriate of Soda or common salt, in preserving the Flesh of Animals, by Dr. Mitchell.*

EXPERIMENTS have abundantly shewn, that muriatic acid, poured upon animal bile, combines with the soda and constitutes common salt. In this experiment, the bitter of bile is precipitated or set loose. It does not yet appear to be quite settled wherein *bitters* exactly differ from *astringents*. With respect to their composition, I suspect the difference is rather in *degree* than in *kind*. If so, then as *astringency* consists in the combination of the gallic acid and the earth of allum, there can be conceived nothing injurious to health in that portion of the secretion of the liver.

If muriate of soda, can be thus produced artificially and *out of the animal body*, there can be no doubt of the possibility of its formation by a natural process *within* the body, where the spirit of salt is taken as an article of food or of medicine. Glauber seems first to have practiced the extraction of this



singular and moderate acid from its alkaline basis in sea-salt, [2 *Boerhaav Chem. Proc.* cxliii.] and to have given an account of its excellence in diet and domestic œconomy. BOERHAAVE describes it as “remarkably agreeable to the stomach, promoting appetite, attenuating mucus, assisting digestion, preventing putrefaction, &c.” and concludes the character of this liquid procured from sea-salt, by affirming that “it is above all praise.” [*Ibid.*] And HOFFMAN [*Obs. Phy. Chem. lib 2, obs. xvii.*] speaks of the using of the spirit of salt with flesh-broths as a common practice. It is rather a pity the oxygenated forms of this acid and their combinations, have chiefly attracted the notice of the more modern chymists.

YET, though the spirit of salt is so safe and valuable a preparation, the untutored appetite of man and other animals, has led them to prefer the muriatic acid in conjunction with soda, that is, sea-salt or common salt, to the spirit of salt itself. There must be a reason for this, and this reason, which is founded deep in the nature of things, is worthy to be searched for.

THUS the constitution of many creatures is supplied not only with the *bitter of soda* (bile or gall) furnished by the liver, but with the *muriate of soda* taken in with food. Then the question before us is, what are the chymical effects of the muriate of soda taken into the stomach with the aliment? Now I say, in creatures who eat substances which contain septon, or the basis of the acid of putrefaction, there may happen cases of surcharge, retention or indigestion; and at such times, may be formed within the stomach or intestines, a portion of that offspring of corruption, the septic acid, after the

same manner as in other putrefactive processes. — Besides the agreeable stimulation afforded by the muriate of soda, to the palate and stomach, its alkali lies ready to seize and neutralize any little parcel of septic acid that may happen to be produced. After this manner, that injurious acid is taken out of circulation, and the mild and salubrious spirit of salt is extricated in its stead. And in a similar way, the soda of sea-salt has an operation in the stomach, similar to the soda of the gall in the intestines. In the former case the muriatic acid is set loose, in the latter the bitter principle. In both, the soda will quit its present connections, to combine with a stronger acid. In such cases, cubic nitre is the new product. Where no acid is generated, there will be no decomposition of either. The reason then is apparent, wherefore it is better to take the muriatic acid *with soda*, than without. There may be a further use, that from this source, the bile itself may derive its alkali.

THE principle wherefore sea-salt acts in preserving food, may thus be considered as investigated. But it may be asked, why the muriatic acid is so much milder than the septic? To this I reply, that as the unknown radical of that acid attracts oxygen more forcibly than any other known substance, it acts with moderation upon almost every other body; not like the septic powerfully acting and being itself powerfully acted upon, but on the contrary, not readily decomposing other bodies, nor being itself readily decomposed. When the base of the muriatic shall become known, certain doubts and difficulties which beset this part of the inquiry will be cleared away and not until then. This discovery is a great desideratum in science.

YET the muriate of soda is not only mingled with food when eaten, but many substances intended for nutriment, are sprinkled, pickled, or impregnated with it in the larder and kitchen, before they are served up at table. Sea-salt is preferred for culinary purposes, not because it is the *strongest*, but the most *palatable* and *agreeable* of antiseptics. This may be best understood by shewing what soda can do alone.

IF I am not mistaken, the operation of this alkali, to overcome the harmful products of putrefaction, is amply supported by the ancient mode of embalming, as practised in Egypt. For HERODOTUS, in describing the process, particularly mentions among other things, that the bodies *were salted* and hid in NITRE for seventy days—[B. II. cap. 85, 86.] “The use of which was to dry up all their superfluous and noxious moisture.” The Greek Historian uses both the word and the atticism to express the substance used for salting the bodies. Now, it is a settled point, that these words though translated “nitre,” mean not the “Salt-Petre,” of the moderns, but the soda or the basis of sea-salt. This chymical correction, strengthened by the authority of WARBURTON, [3 *Divine, Leg. B.* 4 § 3.] contending that the body of ISRAEL [Genesis, c. l. 2, 3.] was kept by the embalmers, the customary time in nitre, [Carbonate of Soda] evinces how long ago it was known that the mineral alkali, absorbed the septic fluids produced during the corruption of human bodies.

SODA alone then can preserve the flesh of an animal from corruption; and if mere preservation was all that was intended, this alkali, would, by it-

self answer the purpose, and so would Pot-Ash.— But there is some quality in the muratic acid, which makes the compound, which it forms with Soda, a far preferable substance to prevent the corruption of meat intended to be eaten.

IN order to understand what effect the muriate of soda has, it will be proper to consider what change the piece of meat in the larder was undergoing, which could be arrested by the sea-salt. The flesh of animals, we mean particularly the muscular or lean parts, may be considered as verging towards a putrefactive state from the time the fibres lose their irritability and become rigid, and one of the signs of incipient putrefaction, under circumstances favourable to that process, is sometimes a *sourness* or *production of acidity* in the substance [4 *Fourcroy, Chap. xvi.*] and this acidity is inherent in the meat, and quite another thing from fixed air. What I mean is the *septic acid*, which sometimes poisons dissectors, and which, when volatilized into gas and diffused through the atmosphere, causes violent endemic distempers. When produced, it is formed early in the putrefactive process, and before the whole flesh has undergone total disorganization. But fortunately for mankind, it is not *always* engendered during the putrefaction, even of those substances which contain its basis, septon. This radical frequently escapes in the form of azotic air, without combining with oxygene at all, and in such cases the exact matter of pestilential fluids is not formed.

IN cases where the septic acid is formed in salted meat, the muriate of soda is decomposed: and while the alkali attracts the destructive septic acid to itself, it lets go the muriatic. The flesh, in proportion as it becomes impregnated with this new

and preserving ingredient, progresses afterwards slowly towards decomposition, because it is enveloped with a liquid acting feebly upon it, and upon which it can exert in its turn but a feeble action. Hence, when beef, or any other lean meat, is plentifully charged and surrounded with salt, there is enough of soda to neutralize the acid of putrefaction, should any be formed, and there is also a corresponding proportion of the spirit of salt disengaged, from which latter proceeds in a certain degree the agreeable smell and pleasant taste of well salted provisions.

To preserve the flesh of animals, there must therefore be not only salt enough in the barrel, but this salt must be applied to every part of the meat, by cutting it into pieces of a moderate size, and by rubbing in the salt with a strong hand, as well as by the application of brine or pickle. When too little salt is applied, and provisions are become tainted or corrupt, there is not soda enough to arrest the septic acid, nor a sufficiency of muriatic acid extricated to impregnate and preserve the remainder of the meat. From this septic matter disengaged, with a portion of hydrogen, phosphorus, &c. proceed the disgusting flavour and sickly nauseating factor of badly cured provisions. [*See Mitchell's letter to Professor Woodhouse, &c.*]

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### *Good qualities of the Bronx River Water.*

THE Committee suppose that it may aid the publicity of Dr. Browne's valuable Memoir, presented

to the Corporation of the city of New-York, to add the following extract from it, on the means of supplying the city with Water, from the River Bronx.

THE stream in the County of West-Chester, known by the name of Saw-Mill river, which empties into the North river, beyond the nineteen mile stone, has been mentioned by some as excellent water, and capable of affording all that is wanted. I have no objection to make to the truth of this assertion—but the expence of bringing this water nineteen miles, over so rough a country, would be greater than could be probably raised for this purpose, even admitting the necessary supply could not be had otherwise—but fortunately New-York is not in this dilemma, for there is another source equally copious and full as pure, that may with great facility be obtained for a quarter part of the expence (to wit.)

## THE RIVER BRONX,

WHOSE principal source is from a small lake, about four miles Northward of the White Plains. This lake is nearly three miles in length and half a mile wide. After meandering twenty miles through a rocky part of the County of West Chester, it falls into the East river, just above Hunt's Point. The nearest point of its approach to the City of New-York, is at present about 12 miles from the City Hall.

THIS water is remarkably pure and pellucid, and from a chymical analysis which has been made of it, it may be relied on as possessing no noxious qualities. The inhabitants who live near its banks,



are in the constant habit of using it in preference to other water during cold weather, and experience no bad effects from it. It may not be amiss to mention a few tests that are the only ones necessary to ascertain what is good water—the first is to boil leguminous vegetables in it, the second to mix it with soap, for water that contains any of the salts with an earthly base, such as nitrate of lime and magnesia, muriate of lime and magnesia, sulphat of lime, or carbonate of lime and magnesia, will not do well for either of the above purposes, for having a great affinity to the mucilage of plants, it extracts, and thereby renders them hard and disagreeable to the taste. Soap is likewise an excellent test, which is known to be a chymical compound of alkali and oil or fat. All salts with an earthly base, decompound soap by a double exchange; their earth unites itself with the oil or fat, whilst their acid combines with the alkali of the soap, and by the combination of the oil and earth, is formed a soap which is insoluble in water, and makes those clots or curdles, which we perceive in mixing soap with what is generally called hard or crude water. Water then that is clear and from a running source, that boils leguminous vegetables tender, in which soap readily dissolves, and has no bad flavour, may be pronounced good water—to all these tests, the water of the Bronx has been submitted, and from whence we cannot but pronounce it excellent.

I SHALL now endeavour to point out an easy method of carrying it to New-York. It has already been mentioned that its nearest approach to the City Hall, is about 12 miles distance; but at about 14 miles distance, which is half a mile below Williams's bridge, is a piece of low meadow ground,



in which arise two springs—one of which runs easterly, and empties itself into the Bronx, at not more than 400 yards from its origin. The other spring runs southerly and empties into Haerlem River, after traversing a distance of about six miles. The place where those springs originate, is not more than five feet above the level of the Bronx, and sometimes part of the river, when raised by a considerable freshet, has run over part of this meadow and emptied itself into Haerlem River. From those reasons, then it is obvious that by building a Dam, five feet in height, across the Bronx, below where the first mentioned Spring empties itself into it, and by digging a Canal 400 yards in length through the meadow, the whole of the Bronx, if necessary, might be diverted from its old rout, and thrown into Haerlem river, at about eight miles distant from the City-Hall. The place where the Bronx may be thus divided, is about 50 feet above high water mark.

F I N I S.







Med. Hist.

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